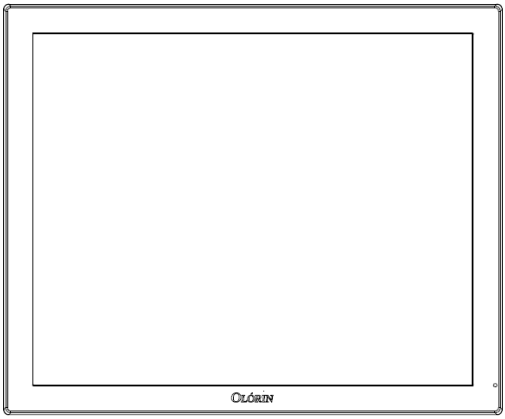
OLÓRIN

Display User's Manual



VistaLine

VLD159 (MAV1532A & MAV1542A)
VLD179 (MAV1732A & MAV1742A)
VLD199 (MAV1932A & MAV1942A)
VLD229 (MAV2122A)
VLD249 (MAV2422A)

www.olorin.com

Contents

Preface

Thank-you for purchasing this Olorin LCD Monitor.

To get the full benefit of the features that this product offers you, it is important that you read this User's Manual which, among other things, will explain how to properly install and operate the monitor. In this user guide there are detailed product specifications, explanations for many of the technical terms used in this manual as well as information on regulatory approvals, cleaning, service instructions, warranty terms, waste disposal and some other useful information.

It is of utmost importance that you carefully read and follow the safety instructions and safety notices included in this User´s Manual.

Failure to comply with these instructions could in some instances cause bodily harm to yourself or other persons and/or un-repairable damage to the product or to other attached devices / appliances.

Throughout this manual the following symbols are used to guide you to the proper use of the product:

Symbols

Expresses DO NOT.

Warning

Person could be at risk of severe injury or death.

Caution

Person or properties could be at risk of injury or damage.

Expresses MUST DO.

Keep this Users Manual in an easy accessible and safe place for future reading of it. If you lose your copy, you may request a new one by contacting us at our website: www.olorin.com.

Olorin reserves the right to change the specifications of this product without any notice. Such changes could cause the operation of the product to be slightly different from the descriptions in this copy of the Users Manual.

Windows and MS-DOS are trademarks and/or registered trademarks of Microsoft Corporation in the United States and/or other countries. VESA is a trademark of the Video Electronics Standard Corporation. All other product and company names are trademarks of their respective owners.

Product Features

Standard delivery

The product is normally delivered in one main part.

- a LCD panel with TFT picture element which also contains the lamps for the backlight along with necessary electronics and cable connectors as well as power connector. These parts are normally mounted inside a plastic housing.

In certain special cases per customer request it is delivered with the plastic housing removed in what is called “open frame” format. Certain other options or special mounting components might have been pre-installed.

Warning

When the monitor has been delivered as open frame there is a greater risk to come in contact with electric parts which could cause harm to yourself or your property. It should therefore only be handled with special precaution and only by properly trained service personnel.

Power management

This unit has power management system. The monitor will go into “sleep mode”, where power consumption is less than 5W, whenever either horizontal or vertical signals or both disappear.

High performance panel element

The color LCD panel used in this product is specifically designed for advanced applications such as video, marine dimming.

Protective glass

The GTF versions of monitors are fitted with a protective glass for easy cleaning.

Ergonomic features

To ease eyestrain on the user, the panel features excellent viewing angles.

VESA standard wall / arm mountings

The unit is compliant with VESA 100 x 100 mm for mounting the monitor on base unit or monitor arm.

Intended use of this product

This product has been designed and developed for use as a visual output device for direct connection to a Personal Computer and PC compatible devices as well as other video generating equipment, such as cameras. The product will accept industry standard video signals coming over cables with industry standard type connectors. The product will operate and function properly in normal office environment and under conditions as specified in the Product Specification chapter.

Warning

Attempting to use the product for any other purpose than its intended use or connecting to other devices could cause damage to the product and / or to other property and equipment. There could also be a risk of bodily harm to yourself or other persons.

The product operates on 12V or 24V DC power and must be connected thru the AC 100-240V, 50-60Hz to 12V DC adapter (or 24V DC adapter) which is included with the product. Power to the adapter should be coming from an ordinary grounded AC 100-240V power outlet.

Warning

Never try to connect the product to any other power source than the 12V/24V adapter delivered together with the product. There would be a risk of electrical shock which could cause bodily harm, possibly even death. Most certainly such electrical shock will damage the product.

The product can also be delivered with certain options installed. Such options could be touch panel or other special accessories.

Warning

All other uses of the product, including but not limited to attempts such as;

• connection to other types of power sources

• using other types of mounting or placement of the product

• connection to other devices than those for which the monitor has been designed.

will void any and all warranties of the product and the manufacturer will not be responsible or libel for any bodily injury or property damage either directly or indirectly caused by such non-intended use of the product.

Intended Markets

Olorin products are developed primarily for sales and installation in countries within Europe and North America. The products normally comply with regulations and directives issued by the European Union and by authorities in the United States.

Warning

The products are not intended for sales and/or installation in countries, which require other or additional mandatory approvals than those required by the authorities of the European Union or the United States.

Please consult the product identification label or product specification for regulatory approvals that apply to this product.

Safety Precautions

It is important that you read through the following notes of Safety Precautions to avoid any damage to the Product, yourself or other property. Following these precautions will also ensure that you get the best use of the Product.

Warning

DO NOT OPEN THE PRODUCT. There are no user serviceable parts inside. Because of high voltage inside there is a risk of bodily injury or death. Only authorized and qualified service personnel should maintain the product.

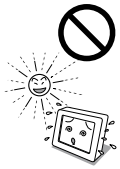
Cautions when setting up

Caution

Do not put the unit on unstable places (on a wonky table or in an inclined place), which might cause injuries if it falls down.

Caution

Do not place the unit where it is subject to direct sunlight or near any heating device. This could cause overheating resulting in damage to the product and eventually causing a fire.



Caution

Only connect the AC power cord to a socket with a earthed connection.

Cautions when using

Warning

Do not put the unit in such a place where there is bad air circulation, dust, humidity, oily smoke or steam. It may lead to a fire.

Caution

Do not put any metal materials or flammable foreign objects into the unit through the vent holes. It may lead to electric shock and/or fire. Immediately disconnect the unit from the power outlet and contact your local re-seller for service.

Safety Precautions

Caution

Scratching or hitting with hard objects may damage the unit.

Warning

Do not use the unit turned over on its back, put on its side, or upside down. These positions may cause the heat that the unit generates to accumulate inside the unit. Such overheating can cause damage to the product and eventually start a fire.

Caution

When using the unit for several hours, you should take a 10-15 minute break every hour to reduce eyestrain. Failure to do so could cause injury to your eyes.

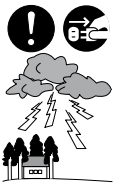
Abnormal circumstances

Warning

In case of any abnormality such as odor, sound, and overheat taking place, immediately turn off the power and disconnect the plug from the outlet. Continuing to use the unit under such condition may lead to electric shock and/or fire. For assistance contact your local re-seller.

Warning

In the event of thunder, immediately turn off the power and disconnect the plug from the outlet. Lightning strikes may cause electric shock and/or fire.



Warning

In the event of broken panel and leaking liquid crystal, do not inhale, swallow, or touch the liquid crystal. It may cause you to get poisoned and/or having a skin irritation. If you put it in your mouth or eyes, immediately rinse with water and contact a doctor to get a checkup. In case of getting it on your skin and/or cloth, wipe it off with alcohol and rinse them.

Safety Precautions

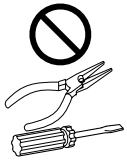
Maintenance

Warning

Do not remove the plastic cabinet. There are high voltage parts inside that may lead to electric shock. Ask a re-seller for adjustment and inspection.

Warning

Do not remodel or repair. It may lead to fire, electric shock, or injuries.



Caution

Clean the dust inside the display once a year. The dust that accumulates inside the unit may lead to fire. Ask a re-seller for adjustments and inspection.

Caution

Disconnect the plug from the outlet when you do not use the unit for a prolonged period.

Regulatory Tests and Certifications

All Olorin products have normally been tested to comply with all mandatory Regulatory requirements for the markets where the products are sold. Approvals are listed by each Regulatory Agency under the name of the manufacturer and model number as specified on the Product Identification Label. Copies of such approvals can be requested by contacting Olorin AB via www.olorin.com.

Approvals applicable for this specific product is listed in the Product Specification section of this manual.

Tests and approvals

Products in the VistaLine series has been tested as an IT-category product for normal office environment and for use as a desktop monitor. In general, they comply with the following standards and regulations but you will need to verify with each indivual product specification.

- CE for use within the European Union member states
- WEEE for use within the European Union member states
- RoHS for use within the European Union member states

Warning

Using any other 12V/24V adapter than the medical approved one delivered with the product or connecting this to a non-grounded power outlet voids the approval.

Warning

Before taking the product in use, the person installing it must test that the grounding of the monitor complies with the impedance requirements of the country where it is being installed.

Warning

When using at 240 V in the United States, supply must be from center-tapped, 240 V, single phase circuit.

Warranty and Limitation of Liability

Warranty

For details of the warranty please see the separate warranty document included with this product.

Limitation of Liability

Olorin AB, including any of its affiliates, manufacturing partners and sales agents, is not liable for any claim for damages including, but not limited to, loss of business profits, disruption of business, change or loss of saved data, when damage is arising from

- fire, earthquakes, actions taken by any third party, any other accidents, intentionally or negligently, improper use of the product by the user, or any use under other abnormal circumstances.
- the use or inability to use this product.
- the use for other purposes than the intended use as described in this document.
- malfunctions caused by the combination of connected devices.

Product identification

Affixed to the panel part of the product is a Product Identification Label. It is normally affixed in the connector compartment. This label contains the following information:

- Olorin logo and web address
- Product Family name
- Model number
- Part number
- Serial Number
- Power rating
- European Authorized Representative (EC REP)
- Symbols for Regulatory approvals
- Country of Origin

Cleaning of the Product

Caution

Be careful when cleaning the plastic housing of the panel so that no liquid or other objects will drip down into the product through the ventilation holes. This could cause electric shock and damage the product.

Normal dust and lint particles can be easily wiped off with a soft, clean cloth tissue.

For grease or dirt that is more firmly fixed to the product, the use of a soft, clean and dry micro fiber based cloth tissue will normally remove it all.

You can also use a mild liquid detergent mixed with water for cleaning together with a soft cloth tissue. This will clean both the cabinet and the LCD panel well. For the LCD panel you can also use isopropyl alcohol based liquids (without abrasive) or non-ammoniac glass cleaner.

When cleaning the LCD panel you will get the best result if you clean the panel when its surface has cooled down to normal room temperature. On a warm panel the liquid evaporates too quickly leaving traces of the cleaning. Afterwards wipe the surface dry with another soft cloth tissue.

Warning

When cleaning the cabinet do NOT use thinner, benzene or alcohol as these might damage the plastic and cause the paint to peel off. Do NOT use organic solvent such as acetone and toluene when cleaning the panel.

Warning

If you use any liquid for cleaning you must first un-plug the power to the monitor and not connect it again until you are certain that all the liquid particles have evaporated. Failure to do so could result in electric shock.

Caution

Do not use any tools with hard or sharp material for cleaning. The panel can very easily be scratched or damaged from such tools.

Caution

Do not press hard on the panel when cleaning. This could cause damage to the LCD panel element.

Disposal of the Product

Do not dispose of the unit with general wastes.

The monitor has been manufactured to comply with the EU directive on RoHS (Reduction of Harmful Substances) but even so the LCD panel contains a small amount of mercury and the monitor should therefore be disposed of according to local laws. Please get information from your local re-seller how collection is handled in your country. For countries that are members of the EU the WEEE directive applies and proper marking is on the product label affixed to the monitor.

Getting started

Before operating this monitor, please make sure that all items listed below are present in your delivery.

Standard accessories

- User Manual
- AC/DC adapter
- AC Power cord 1.8M
- DVI-A Cable 1.8M
- DVI Cable 1.8M

Extra accessories for monitors with touch panel

- USB 2.0 Cable 2.0M

If any of the above items are found missing or if you wish to order the optional items, please contact your reseller.

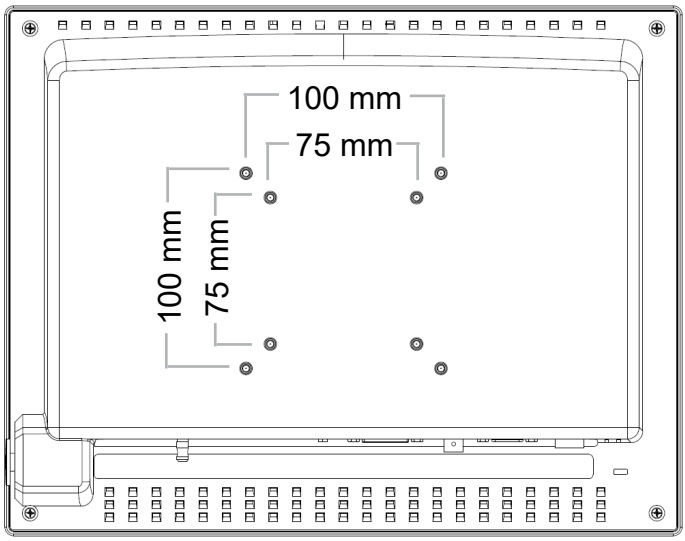
Mounting on a wall or LCD arm

The Monitor has Video Electronics Standards Association (VESA) standard mounting holes tapped into the rear panel. The standard holes are M4 75 x 75 mm and/or 100 x 100 mm.

If you intend to mount the monitor on the wall, we strongly recommend that you use wall mount kits with attached M4*10mm screws and which can hold a load of more than the weight of the monitor. Ensure it is securely and safely installed.

Warning

If you mount any device using these 4 holes on the back of the panel you must not use screws longer than 10 mm. Longer screws will cause damage which is not covered by the product warranty.



Connection Method

No tools are required to connect the LCD monitor to your PC or other device. Simply follow the instructions outlined in the next few pages.

Connect Power Adapter and Cable

Connect the round shape plug end of the AC/DC adapter to the DC Power input connector of the LCD monitor. Connect the female end of the power cable to the AC power input receptacle on the AC/DC adapter. Then, plug the male end of the power cable into an grounded AC outlet.

Caution

Make sure you use the AC to DC adapter delivered with the product.

If your system is prone to changes in voltage, make sure you turn off the monitor before turning off the entire system to avoid damages. The unit requires constant 12V.

Connect Signal cable

On page 17 you can see which input connectors there are available on your monitor and which cable you should connect depends on your source for the input signal.

VGA (analog) sources should use a VGA to DVI-A cable for connection to the DVI-I connector on the monitor.

DVI (digital) sources should use a DVI-D cable and connect to the DVI-I connector on the monitor.

VGA and DVI can be connected at the same time (as separate input sources) with the optional DVI to VGA and DVI splitter cable, please see the next page.

HDMI (digital) sources should use a HDMI cable and connect to the HDMI connector on the monitor, or use a HDMI to DVI-D cable and connect to the DVI-I connector on the monitor.

DisplayPort (digital) sources should use a DisplayPort cable and connect to the DisplayPort connector on the monitor, or use a DisplayPort to DVI-D cable and connect to the DVI-I connector on the monitor.

Video input from camera or other NTSC / PAL equipment

Use a BNC cable for CVBS (Composite video).

Connect Audio Cable

Connect an audio output device to the monitor with the included stereo mini cable, using the 3.5 mm audio jack.

RJ45 Connector

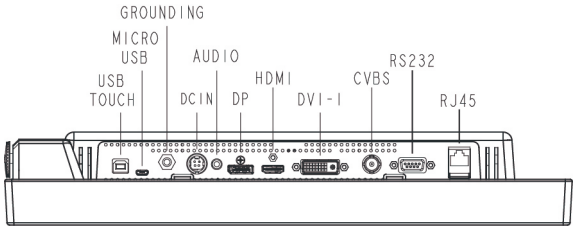
If you want to control the monitor from a distance there is an optional external control box available. This box is connected with an RJ45 cable.

Caution

When you disconnect the cables, be sure to hold the connector and not the cable itself. Also make sure you use cables and connectors of high quality.

Input signals

Input signals, connections

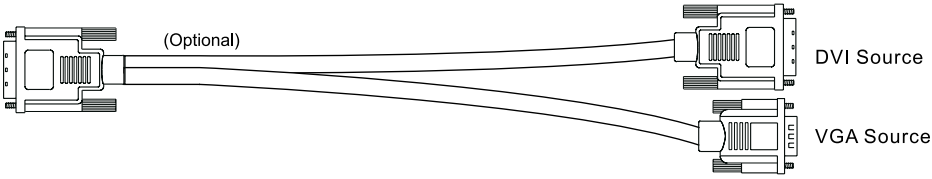


Depending on the model, some of the inputs might be arranged in a different order.

Depending on the model, some inputs (such as Touch USB) will be omitted.

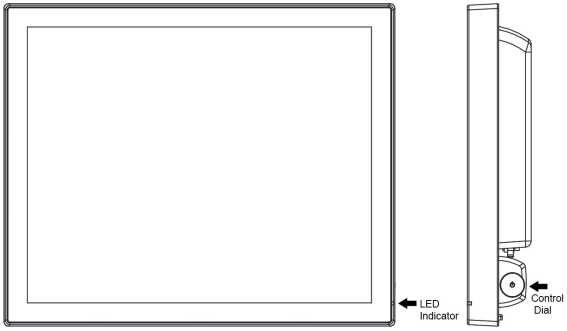
DVI-I to DVI-D & VGA splitter cable

The monitor might delivered with a DVI-I to DVI-D to VGA splitter cable, with this cable you can utilize two different input sources (VGA and DVI) on the same port on the monitor.



You will be able to select both VGA and DVI in the monitor's OSD.

How to Operate



LED Indicator

This LED indicator turns green when the power is switched ON and the power cord is properly attached. It turns amber when the monitor goes into a power saving mode (Active Off). Optionally, the LED indicator can also be switched OFF in the OSD menu.

Control Dial

The Control Dial is a multi-functional device located behind the LED Indicator on the right side of the front bezel. It has three movements-rotate upward, rotate downward and press inward as a button.

1. **Power On/Off**
   Press the Control Dial to power the unit on from the off stage (the display is off). To turn the power off, press the Control Dial and hold for at least 1 second until the display turns off.

2. **OSD Control**
   While the monitor is on (image on the screen), pressing on the Control Dial activates the OSD. While the OSD menu is active, use the three way movements of the Control Dial to adjust the monitor.

Rotate Downward:	Move Up/Right, Increase, Larger, More
Rotate Upward:	Move Down/Left, Decrease, Smaller, Less
Button Press:	Execute, Do, Save

   In the **SOURCE** menu, clicking navigates the menu, letting it idle confirms. To enter the **Main menu** from the Source menu, you must rotate the control dial and press it to confirm your selection.

3. **Change of Brightness Setting**
   If you rotate the Control Dial without first having clicked to enter the OSD, then it will change the brightness setting. It will do so in a quick way by adjusting with larger steps in the bright area and gradually lower values towards the dark area. This is to facility quick change of brightness when you have the “Dimming option” enabled.

OSD Adjustment Functions

No Signal

The LCD monitor does not scan and auto select input source, this means it will only display a ”No Signal” message on screen and go in to stand-by mode if the user doesn’t manually select an active input source.

To enter the SOURCE menu of the OSD, press the control dial once to activate the monitor, wait for the ”No Signal” message (takes up to four seconds), then press the control dial again to bring up the SOURCE menu.

On-Screen Display (OSD)

The LCD monitor features a On-Screen Display (OSD) menu with easily identifiable icons designed to make adjusting your monitor display settings a more user-friendly process. When highlighted, the icon illustrates the control function and a brief instruction to assist the user in identifying which control needs adjustment.

The OSD menu is activated by pressing the Control Dial inward and you can select and adjust the function of your choice by rotating and clicking the Control Dial.

In the Source menu, clicking the Control dial inward lets you choose the next Source, let it idle to confirm. To select the MAIN MENU, rotate the dial and select Main menu, then click to confirm. The Main menu displays a list of control icons and the current video input mode. Rotate the dial to move the highlights to the control you would like to adjust, then press the Control Dial inward to select that control or to activate that function. Depending on the control you selected, a submenu of the control with a status bar will appear. The status bar indicates in which direction, from the factory preset, your adjustments are being made. Rotate the Control Dial to adjust the control.

When you have finished making the adjustments, the setting is saved automatically by exiting the control function. If you do not touch the control dial for 20 seconds, the OSD is automatically exited saving your current settings.

Menu descriptions

The LCD monitor is capable of accepting a variety of input sources (both analog and digital) and therefore has two different sets of OSD control functions.

Depending on your input source and also depending on which color mode you have selected there are some functions that are not necessary, cannot be executed or are locked out to comply with certain standards. You will then encounter the message “Not Available” when you try to select such functions.

The charts on the next page show the function tree and brief explanations of the functions.

Charts of OSD Adjustment Functions

When you enter the OSD you first come to the menu for selection of input so, if you have two sources connected (i.e. PC and camera) you can quickly switch from one source to the other. When you click on another source you will leave the OSD system. If you want to proceed to the regular Main Menu you must choose “MAIN MENU”.

Menu:	Sub menu:	Description:
Source		
DVI-I VGA		Select DVI-A VGA input source.
DVI-I DVI		Select DVI-D DVI input source.
HDMI		Select HDMI input source.
DP		Select DisplayPort input source.
CVBS		Select CVBS (Composite) input source.
Main Menu		Enter the Main Menu, see below.
Main Menu		
Exit		Exit the main menu, in sub menus this option will close the current sub menu and bring you back to the main menu.
Analog Setup *1		Adjust monitor to analog signal
	Auto Setup	Automatic adjustment of the analog signal.
	H. Position	Manually adjust the horizontal position of the analog signal.
	V. Position	Manually adjust the vertical position of the analog signal.
	Clock	Fine tune clock video signal for positioning of the picture the screen.
	Phase	Adjust Phase frequency to control flickering or waves on the screen.
Picture		Adjust the brightness, contrast, black level and color modes of the monitor.
	Brightness	Adjust the brightness, from 0 to 100. When dimming is enabled this will also dim the monitor. Default setting is 40.
	Contrast	Adjust the contrast, from 0 to 100. Default setting is 50.
	Black level	Adjust the black level, from 0 to 100. Default setting is 50.
	Color mode	Change the color mode. Color (9300K) Neutral, (6500K) Warm (5400K) and User (custom RGB values) are available.
Scaling		Change the scaling of the input source. Full, 5:4, 4:3, 16:9 and 1:1 are available. Default setting is FULL.
Audio		Adjust the audio settings of the monitor.
	Audio Mute	Change if the audio should be muted or not. YES = audio will be muted, NO = audio will play.
	Volume	Adjust the volume of the audio, from 0 to 100.
	Audio Input	Change the active audio input, you can use either Digital (via HDMI and DP source) or Line In (3.5 mm jack).

Continued on the next page...

Charts of OSD Adjustment Functions

Menu:	Sub menu:	Description:
Management		
	OSD Display	Adjust the position of the OSD Display, horizontally and vertically.
	Language	Change the OSD language. English, French, Spanish, German, Italian and Swedish languages are available.
	Key Lock	Enable or disable the OSD so that the end user can't change OSD settings. To disable key lock outside the OSD, press the control dial five times.
	Bright Bar	Enable or disable the OSD bright bar which appears when you adjust the brightness.
	Power LED	Enable or disable the power LED on the monitor.
	Recall	Reset the monitor to its default factory settings.
Source		This will take you back to the Source menu as described above.
System Info		System Info will display information about the monitor's current settings and input source. It will show the user: Model Name, Firmware, Language, Color Mode, Operation Hours, Dimming, Audio Mute, Audio Input, Source, Scaling, Resolution, Horizontal Sync and Vertical Sync.
Olorin		Manufacturer's service and support menu with password protected options.

*1 Only available if the monitor input source is DVI-A.

Maritime functionality

The LCD monitor has the following optional features for maritime applications:

Dimming

To lower the brightness to minimum on a monitor without sacrificing contrast values. This is especially useful on ships during night use in order to keep night vision intact.

Sunlight readable

Polarizing filter that is applied on top of the LCD display, increases color saturation and decreases reflections on the panel in environments where strong sunlight is common.

Projected Capacitive Touch

The LCD monitor has the following optional feature:

Projected Capacitive Touch (PCAP)

Projected Capacitive Touch (PCAP) are made up of a matrix of rows and columns of conductive material, layered on sheets of glass. Voltage applied to this grid creates a uniform electrostatic field, which can be measured. When a conductive object, such as a finger, comes into contact with a PCAP panel, it distorts the local electrostatic field at that point.

This is measurable as a change in capacitance. If a finger bridges the gap between two of the ”tracks,” the charge field is further interrupted and detected by the controller. The capacitance can be changed and measured at every individual point on the grid (intersection). Therefore, this system is able to accurately track touches. Due to the top layer of a PCAP being glass, it is a more robust solution than less costly resistive touch technology. It is possible for a PCAP system to sense most types of passive stylus or gloved fingers.

Microsoft Windows 7 and Windows 10 have native driver support for PCAP touch on Olorin monitors.

The latest drivers can be downloaded from:
https://www.eeti.com/drivers.html

RS232 Serial Command & Control

The LCD monitor features RS232 serial input for command and control, this includes things such as changing the input source, adjusting the brightness and scaling of the image. Please note that the monitor’s RS232 port must be configured for either PCAP *or* RS232 functionality, it can’t do both. Contact Olorin (see contact page) for further details and complete list of commands that can be used.

Applicable Signal Timings

Caution

The monitor might not work with timings other than the ones listed on the next two pages, please contact Olorin before using the monitor with a non-standard timing. Failure to do so might cause image artifacts.

Continued on the next page...

Applicable Signal Timings

	15”				17” & 19”			
Resolution	VGA	DVI	HDMI	DP	VGA	DVI	HDMI	DP
640 x 400 @ 70HZ	●	●	●	●	●	●	●	●
720 x 400 @ 70HZ	●	●	●	●	●	●	●	●
640 x 480 @ 60HZ	●	●	●	●	●	●	●	●
640 x 480 @ 72HZ	●	●	●	●	●	●	●	●
640 x 480 @ 75HZ	●	●	●	●	●	●	●	●
800 x 600 @ 56HZ	●	●	●	●	●	●	●	●
800 x 600 @ 60HZ	●	●	●	●	●	●	●	●
800 x 600 @ 72HZ	●	●	●	●	●	●	●	●
800 x 600 @ 75HZ	●	●	●	●	●	●	●	●
1024 x 768 @ 60HZ	●	●	●	●	●	●	●	●
1024 x 768 @ 70HZ	●	●	●	●	●	●	●	●
1024 x 768 @ 75HZ	●	●	●	●	●	●	●	●
1280 x 720 @ 60HZ					●	●	●	●
1280 x 768 @ 60HZ					●	●	●	●
1280 x 800 @ 60HZ					●	●	●	●
1280 x 960 @ 60HZ					●	●	●	●
1280 x 1024 @ 60HZ					●	●	●	●
1280 x 1024 @ 75HZ					●	●	●	●
1360 x 768 @ 60HZ								
1366 x 768 @ 60HZ								
1440 x 900 @ 60HZ								
1600 x 900 @ 60HZ								
1600 x 1200 @ 60HZ								
1680 x 1050 @ 60HZ								
1920 x 1080 @ 60HZ								
1920 x 1200 @ 60HZ								

Resolution	CVBS	Nom. Freq. (KHz)	Nom. Freq. (Hz)	Nom. Pixel Clock (MHz)
NTSC	●	15.7	60	13.5
PAL	●	15.7	50	13.5

Applicable Signal Timings

21.5” & 24”				Horizontal		Vertical		
VGA	DVI	HDMI	DP	Nom. Freq. (KHz)	Sync Polarity	Nom. Freq. (Hz)	Sync Polarity	Nom. Pixel Clock (MHz)
●	●	●	●	31,496	-	70,086	+	25 175
●	●	●	●	31,469	-	70,087	+	28,322
●	●	●	●	31,469	-	59,94	-	25,175
●	●	●	●	37,861	-	72,809	-	31,5
●	●	●	●	37,5	-	75	-	31,5
●	●	●	●	35,156	+	56,25	+	36
●	●	●	●	37,879	+	60,317	+	40
●	●	●	●	48,077	+	72,188	+	50
●	●	●	●	46,875	+	75	+	49,5
●	●	●	●	48,363	-	60,004	-	65
●	●	●	●	56,476	-	70,069	-	75
●	●	●	●	60,023	+	75,029	+	78,75
●	●	●	●	45	+	60	+	74,25
●	●	●	●	47,396	+	59,995	-	68,25
●	●	●	●	49,306	+	59,91	-	71
●	●	●	●	60	+	60	+	108
●	●	●	●	63,981	+	60,02	+	108
●	●	●	●	79,976	+	75,025	+	135
	●	●	●	47,712	+	60,015	+	85,5
	●	●	●	47,712	+	59,79	+	85,5
				55,469	+	59,901	-	88,75
	●	●	●	60	+	60	+	108
	●	●	●	75	+	60	+	162
				64,674	+	59,883	-	119
	●	●	●	67,5	+	60	+	148,5
				74,038	+	59,95	-	154

Specifications

VLD159

Monitor	Part Number	VLD15906xxxxx *3
	Model	MAV1532A or MAV1542A
LCD Panel	Backlight Type	WLED
	Screen Technology	TN
	Surface Treatment	Antiglare, Hard coating (3H)
	Screen Size, Diagonal	15.0”
	Screen Size, H/V	304.128 × 228.096 mm
	Aspect Ratio	4:3
	Resolution	1024 x 768, XGA
	Color Depth	262K/16.2M, 60% NTSC
	Contrast Ratio	800:1 (Typ.)
	Luminance	350 cd/m² (Typ.)
	Viewing Angles	160 / 150
	Response Time	8 ms
	Refresh Rate	60 Hz
Main Board	Input horizontal timing range	31K ~ 80K
	Input vertical timing range	55 ~ 80
Display Modes	Temperature	Cool, Neutral, Warm, User (RGB)
Features	Automatic Luminance Control	N/A
	Dimming	Olorin Dimming, 0 to 100%
	Video Scaling	Full, 1:1, 4:3, 5:4, 16:9
	Zoom	N/A
Video Inputs	DisplayPort	DisplayPort x 1
	DVI	DVI–I 29 pin x1 (DVI-A/DVI-D)
	HDMI	HDMI x 1
	CVBS	BNC x 1
Control Inputs	Serial Command, RS-232	D-sub 9 pin x 1 (shared with PCAP function)
	Olorin External OSD	RJ45 x 1
USB	Firmware Upload	Micro USB x 1
Touch Panel	Touch Type	Projective Capacitive Touch *1
	Touch Input, USB	USB-B x 1
	Touch Input, RS-232	D-sub 9 pin x 1 (shared with Serial command function)

Specifications

VLD159

Audio	Audio Input	Phone Jack 3.5mm x 1	
	Speakers	2W x 2	
Power	Power Input Type	External adapter	
	Power Input Rating	100-240Vac,1.8A,50-60 Hz	
	Adapter Model Name	FSP,FSP060-DHAN3	
	Adapter Power Output Rating	12V 4.5 A	
	DC Input	9V~36V	
	DC Connector	4 Pin	
	Power consumption	Full Brightness: 25 W Power Saving: 1.5 W	
Mechanical	Dimensions without Base Unit	347.43 x 271.43 x 58 mm *2	
	Weight without Base Unit	2.8 (Approx) Kgs *2	
	Housing Color	Black (5816)	
	Housing Material	Plastic (PC+ABS)	
	IP Rating	N/A	
	Mounting Standard, VESA	100 x 100 mm, 75 x 75 mm	
	LED Indicator	Green: ON Orange: Stand-by	
	OSD Interface	Potentiometer on Right Side	
	OSD Lock	Yes	
	Anti Reflective Film	Yes *1	
	Screen Protection	Yes *1	
	Security slot	Kensington Security Slot	
	Ground bolt	Potential equalization bolt	
Compliance	EU	CE (EN62368-1, EN55032/EN55035, Rohs, WEEE)	
Warranty	DOA	Three (3) months, max. 500 h.	
	Standard	Two (2) years	
Environmental		**Operating**	**Storage**
	Temperature, C	0 to 40	-20 to 60
	Humidity, % RH	30 to 75	10 to 90
	pressure, hPa	700 to 1060	-

*1 Anti Reflective Film, Touch panel and Screen protection are optional features.

*2 Weight and measurements might differ slightly depending on whether or not the monitor has an optional touch panel or protective glass.

*3 The ”xxxxx” in part number could be any number or letter combinations, intended for optional features such as Projective Capacative Touch (PCAP), Protective Glass (GTF) and more.

Specifications

VLD179

Monitor	Part Number	VLD17906xxxxx *3
	Model	MAV1732A or MAV1742A
LCD Panel	Backlight Type	WLED
	Screen Technology	TN
	Surface Treatment	Antiglare, Hard coating (3H)
	Screen Size, Diagonal	17.0”
	Screen Size, H/V	338.92 x 271.34 mm
	Aspect Ratio	5:4
	Resolution	1280 × 1024, SXGA
	Color Depth	16.7M, 72% NTSC
	Contrast Ratio	1000:1 (Typ.)
	Luminance	350 cd/m² (Typ.)
	Viewing Angles	170 / 160 (Typ.)
	Response Time	5 ms (Typ.)
	Refresh Rate	60 Hz
Main Board	Input horizontal timing range	31K ~ 80K
	Input vertical timing range	55 ~ 80
Display Modes	Temperature	Cool, Neutral, Warm, User (RGB)
Features	Automatic Luminance Control	N/A
	Dimming	Olorin Dimming, 0 to 100%
	Video Scaling	Full, 1:1, 4:3, 5:4, 16:9
	Zoom	N/A
Video Inputs	DisplayPort	DisplayPort x 1
	DVI	DVI–I 29 pin x1 (DVI-A/DVI-D)
	HDMI	HDMI x 1
	CVBS	BNC x 1
Control Inputs	Serial Command, RS-232	D-sub 9 pin x 1
	Olorin External OSD	RJ45 x 1
USB	Firmware Upload	Micro USB x 1
Touch Panel	Touch Type	N/A
	Touch Input, USB	N/A
	Touch Input, RS-232	N/A

Specifications

VLD179

Audio	Audio Input	Phone Jack 3.5mm x 1	
	Speakers	2W x 2	
Power	Power Input Type	External adapter	
	Power Input Rating	100-240Vac,1.8A,50-60 Hz	
	Adapter Model Name	FSP,FSP060-DHAN3	
	Adapter Power Output Rating	12V 4.5 A	
	DC Input	9V~36V	
	DC Connector	4 Pin	
	Power consumption	Full Brightness: 25 W Power Saving: 1.5 W	
Mechanical	Dimensions without Base Unit	385 x 317 x 62.8 mm *2	
	Weight without Base Unit	3.8 Kgs *2	
	Housing Color	Black (5816)	
	Housing Material	Plastic (PC+ABS)	
	IP Rating	N/A	
	Mounting Standard, VESA	100 x 100 mm, 75 x 75 mm	
	LED Indicator	Green: ON Orange: Stand-by	
	OSD Interface	Potentiometer on Right Side	
	OSD Lock	Yes	
	Anti Reflective Film	N/A	
	Screen Protection	Yes *1	
	Security slot	Kensington Security Slot	
	Ground bolt	Potential equalization bolt	
Compliance	EU	CE (EN62368-1, EN55032/EN55035, Rohs, WEEE)	
Warranty	DOA	Three (3) months, max. 500 h.	
	Standard	Two (2) years	
Environmental		**Operating**	**Storage**
	Temperature, C	0 to 40	-20 to 60
	Humidity, % RH	30 to 75	10 to 90
	pressure, hPa	700 to 1060	-

*1 Screen protection is an optional feature.

*2 Weight and measurements might differ slightly depending on whether or not the monitor has an optional touch panel or protective glass.

*3 The ”xxxxx” in part number could be any number or letter combinations, intended for optional features such as Projective Capacative Touch (PCAP), Protective Glass (GTF) and more.

Specifications

VLD199

Monitor	Part Number	VLD19906xxxxx *3
	Model	MAV1932A or MAV1942A
LCD Panel	Backlight Type	WLED
	Screen Technology	AHVA
	Surface Treatment	Antiglare
	Screen Size, Diagonal	19.0”
	Screen Size, H/V	376.32 × 301.056 mm
	Aspect Ratio	5:4
	Resolution	1280 × 1024, SXGA
	Color Depth	16.7M, 72% NTSC
	Contrast Ratio	1000:1 (Typ.) (TM)
	Luminance	300 cd/m² (Typ.)
	Viewing Angles	178 / 178
	Response Time	25 ms
	Refresh Rate	60 Hz
Main Board	Input horizontal timing range	31K ~ 80K
	Input vertical timing range	55 ~ 80
Display Modes	Temperature	Cool, Neutral, Warm, User (RGB)
Features	Automatic Luminance Control	N/A
	Dimming	Olorin Dimming, 0 to 100%
	Video Scaling	Full, 1:1, 4:3, 5:4, 16:9
	Zoom	N/A
Video Inputs	DisplayPort	DisplayPort x 1
	DVI	DVI–I 29 pin x1 (DVI-A/DVI-D)
	HDMI	HDMI x 1
	CVBS	BNC x 1
Control Inputs	Serial Command, RS-232	D-sub 9 pin x 1 (shared with PCAP function)
	Olorin External OSD	RJ45 x 1
USB	Firmware Upload	Micro USB x 1
Touch Panel	Touch Type	Projective Capacitive Touch *1
	Touch Input, USB	USB-B x 1
	Touch Input, RS-232	D-sub 9 pin x 1 (shared with Serial command function)

Specifications

VLD199

Audio	Audio Input	Phone Jack 3.5mm x 1	
	Speakers	2W x 2	
Power	Power Input Type	External adapter	
	Power Input Rating	100-240Vac,1.8A,50-60 Hz	
	Adapter Model Name	FSP,FSP060-DHAN3	
	Adapter Power Output Rating	12V 4.5 A	
	DC Input	9V~36V	
	DC Connector	4 Pin	
	Power consumption	Full Brightness: 35W Power Saving: 1.5W	
Mechanical	Dimensions without Base Unit	429.2 x 354.21 x 65 mm *2	
	Weight without Base Unit	4.7 (Approx) Kgs *2	
	Housing Color	Black (5816)	
	Housing Material	Plastic (PC+ABS) *2	
	IP Rating	N/A	
	Mounting Standard, VESA	100 x 100 mm	
	LED Indicator	Green: ON Orange: Stand-by	
	OSD Interface	Potentiometer on Right Side	
	OSD Lock	Yes	
	Anti Reflective Film	Yes *1	
	Screen Protection	Yes *1	
	Security slot	Kensington Security Slot	
	Ground bolt	Potential equalization bolt	
Compliance	EU	CE (EN62368-1, EN55032/EN55035, Rohs, WEEE)	
Warranty	DOA	Three (3) months, max. 500 h.	
	Standard	Two (2) years	
Environmental		**Operating**	**Storage**
	Temperature, C	0 to 40	-20 to 60
	Humidity, % RH	30 to 75	10 to 90
	pressure, hPa	700 to 1060	-

*1 Anti Reflective Film, Touch panel and Screen protection are optional features.

*2 Weight and measurements might differ slightly depending on whether or not the monitor has an optional touch panel or protective glass.

*3 The ”xxxxx” in part number could be any number or letter combinations, intended for optional features such as Projective Capacative Touch (PCAP), Protective Glass (GTF) and more.

Specifications

VLD229

Monitor	Part Number	VLD22906xxxxx *3
	Model	MAV2122A
LCD Panel	Backlight Type	WLED
	Screen Technology	AHVA
	Surface Treatment	Antiglare, Hard coating (3H)
	Screen Size, Diagonal	21.5”
	Screen Size, H/V	476.064 x 267.786 mm
	Aspect Ratio	16:9
	Resolution	1920 x 1080, FHD
	Color Depth	16.7M, 72% NTSC
	Contrast Ratio	1000:1 (Typ.) (TM)
	Luminance	350 cd/m² (Typ.)
	Viewing Angles	178 / 178
	Response Time	22 ms
	Refresh Rate	60 Hz
Main Board	Input horizontal timing range	31K ~ 80K
	Input vertical timing range	55 ~ 80
Display Modes	Temperature	Cool, Neutral, Warm, User (RGB)
Features	Automatic Luminance Control	N/A
	Dimming	Olorin Dimming, 0 to 100%
	Video Scaling	Full, 1:1, 4:3, 5:4, 16:9
	Zoom	N/A
Video Inputs	DisplayPort	DisplayPort x 1
	DVI	DVI–I 29 pin x1 (DVI-A/DVI-D)
	HDMI	HDMI x 1
	CVBS	BNC x 1
Control Inputs	Serial Command, RS-232	D-sub 9 pin x 1 (shared with PCAP function)
	Olorin External OSD	RJ45 x 1
USB	Firmware Upload	Micro USB x 1
Touch Panel	Touch Type	Projective Capacitive Touch *1
	Touch Input, USB	USB-B x 1
	Touch Input, RS-232	D-sub 9 pin x 1 (shared with Serial command function)

Specifications

VLD229

Audio	Audio Input	Phone Jack 3.5mm x 1	
	Speakers	2W x 2	
Power	Power Input Type	External adapter	
	Power Input Rating	100-240Vac,1.8A,50-60 Hz	
	Adapter Model Name	FSP,FSP060-DHAN3	
	Adapter Power Output Rating	12V 4.5 A	
	DC Input	9V~36V	
	DC Connector	4 Pin	
	Power consumption	Full Brightness: 30W Power Saving: 2.5W	
Mechanical	Dimensions without Base Unit	537.37 x 328.87 x 59 mm *2	
	Weight without Base Unit	5.8 Kgs *2	
	Housing Color	Black (5816)	
	Housing Material	Plastic (PC+ABS) *2	
	IP Rating	N/A	
	Mounting Standard, VESA	100 x 100 mm	
	LED Indicator	Green: ON Orange: Stand-by	
	OSD Interface	Potentiometer on Right Side	
	OSD Lock	Yes	
	Anti Reflective Film	N/A	
	Screen Protection	Yes *1	
	Security slot	Kensington Security Slot	
	Ground bolt	Potential equalization bolt	
Compliance	EU	CE (EN62368-1, EN55032/EN55035, Rohs, WEEE)	
Warranty	DOA	Three (3) months, max. 500 h.	
	Standard	Two (2) years	
Environmental		**Operating**	**Storage**
	Temperature, C	0 to 40	-20 to 60
	Humidity, % RH	30 to 75	10 to 90
	pressure, hPa	700 to 1060	-

*1 Touch panel and Screen protection are optional features.

*2 Weight and measurements might differ slightly depending on whether or not the monitor has an optional touch panel or protective glass.

*3 The ”xxxxx” in part number could be any number or letter combinations, intended for optional features such as Projective Capacative Touch (PCAP), Protective Glass (GTF) and more.

Specifications

VLD249

Monitor	Part Number	VLD24906xxxxx *3
	Model	MAV2422A
LCD Panel	Backlight Type	WLED
	Screen Technology	AMVA3
	Surface Treatment	Antiglare, Hard coating (3H)
	Screen Size, Diagonal	24.0”
	Screen Size, H/V	531.36 × 298.89 mm
	Aspect Ratio	16:9
	Resolution	1920 x 1080, FHD
	Color Depth	16.7M, 72% NTSC
	Contrast Ratio	5000:1 (Typ.) TM
	Luminance	300 cd/m² (Typ.)
	Viewing Angles	178 / 178
	Response Time	25 ms
	Refresh Rate	60 Hz
Main Board	Input horizontal timing range	31K ~ 80K
	Input vertical timing range	55 ~ 80
Display Modes	Temperature	Cool, Neutral, Warm, User (RGB)
Features	Automatic Luminance Control	N/A
	Dimming	Olorin Dimming, 0 to 100%
	Video Scaling	Full, 1:1, 4:3, 5:4, 16:9
	Zoom	N/A
Video Inputs	DisplayPort	DisplayPort x 1
	DVI	DVI–I 29 pin x1 (DVI-A/DVI-D)
	HDMI	HDMI x 1
	CVBS	BNC x 1
Control Inputs	Serial Command, RS-232	D-sub 9 pin x 1
	Olorin External OSD	RJ45 x 1
USB	Firmware Upload	Micro USB x 1
Touch Panel	Touch Type	N/A
	Touch Input, USB	N/A
	Touch Input, RS-232	N/A

Specifications

VLD249

Audio	Audio Input	Phone Jack 3.5mm x 1	
	Speakers	2W x 2	
Power	Power Input Type	External adapter	
	Power Input Rating	100-240Vac,1.8A,50-60 Hz	
	Adapter Model Name	FSP,FSP060-DHAN3	
	Adapter Power Output Rating	12V 4.5 A	
	DC Input	9V~36V	
	DC Connector	4 Pin	
	Power consumption	Full Brightness: 30W Power Saving: 2.5W	
Mechanical	Dimensions without Base Unit	582.07 x 350.07 x 62.5 mm *2	
	Weight without Base Unit	7.4 kgs *2	
	Housing Color	Black (5816)	
	Housing Material	Plastic (PC+ABS) *2	
	IP Rating	N/A	
	Mounting Standard, VESA	100 x 100 mm	
	LED Indicator	Green: ON Orange: Stand-by	
	OSD Interface	Potentiometer on Right Side	
	OSD Lock	Yes	
	Anti Reflective Film	N/A	
	Screen Protection	Yes *1	
	Security slot	Kensington Security Slot	
	Ground bolt	Potential equalization bolt	
Compliance	EU	CE (EN62368-1, EN55032/EN55035, Rohs, WEEE)	
Warranty	DOA	Three (3) months, max. 500 h.	
	Standard	Two (2) years	
Environmental		**Operating**	**Storage**
	Temperature, C	0 to 40	-20 to 60
	Humidity, % RH	30 to 75	10 to 90
	pressure, hPa	700 to 1060	-

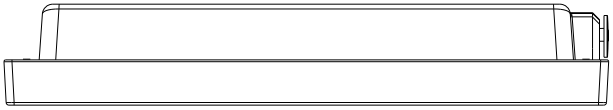
*1 Screen protection is an optional feature.

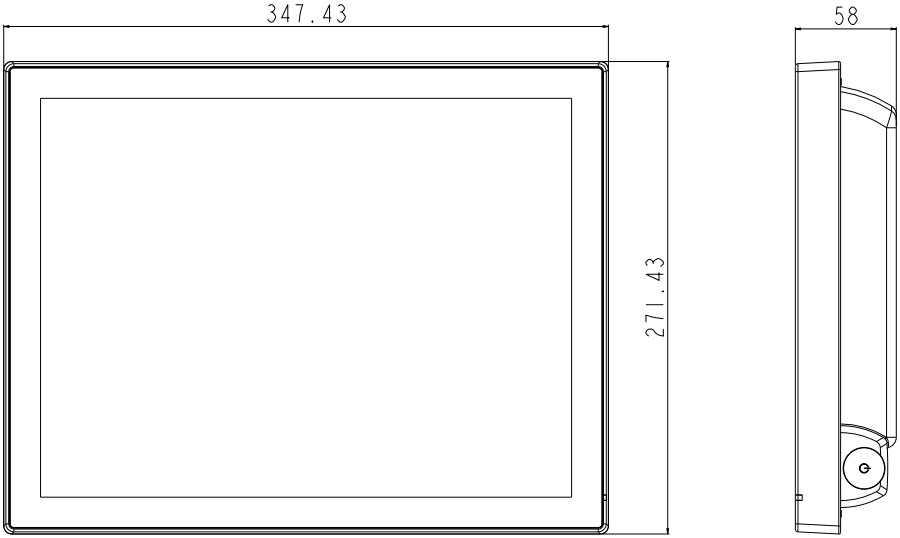
*2 Weight and measurements might differ slightly depending on whether or not the monitor has an optional touch panel or protective glass.

*3 The ”xxxxx” in part number could be any number or letter combinations, intended for optional features such as Projective Capacative Touch (PCAP), Protective Glass (GTF) and more.

Drawings

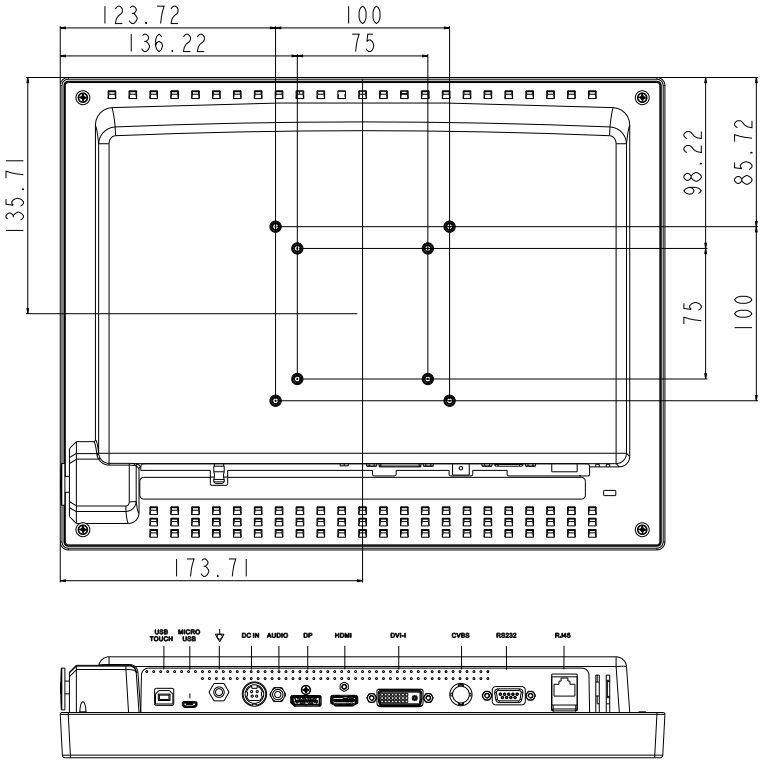
VLD159





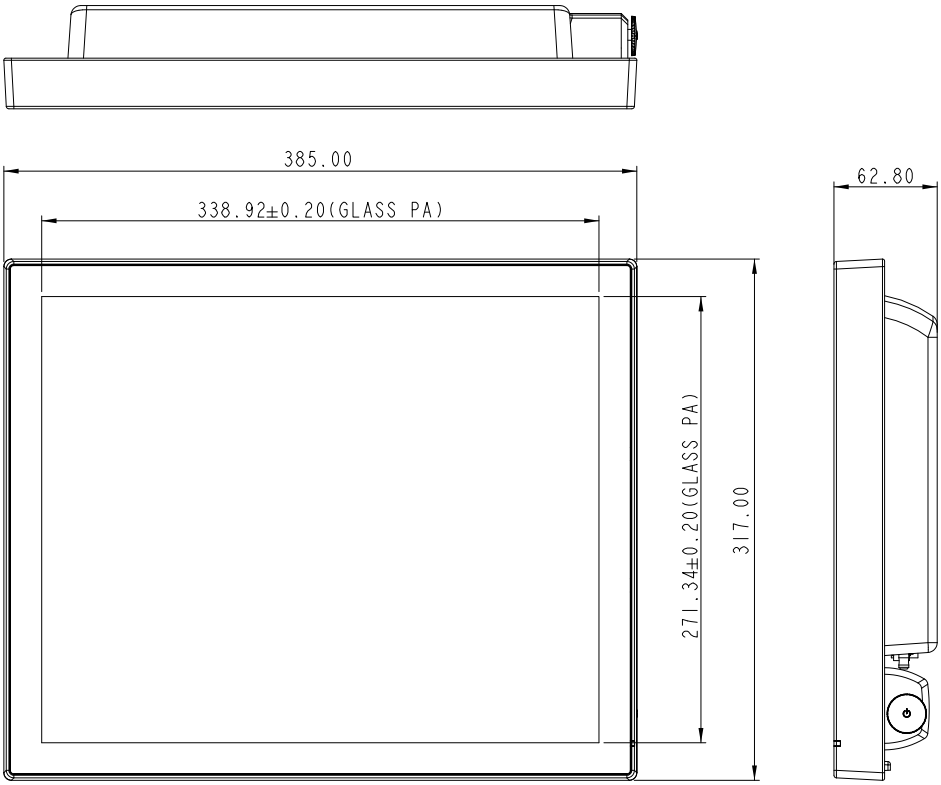
Drawings

VLD159



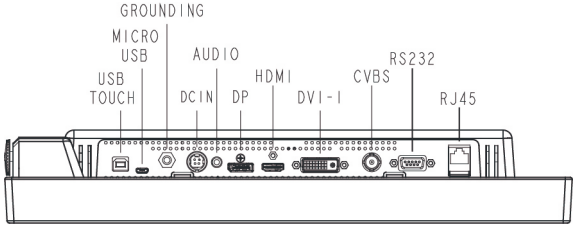
Drawings

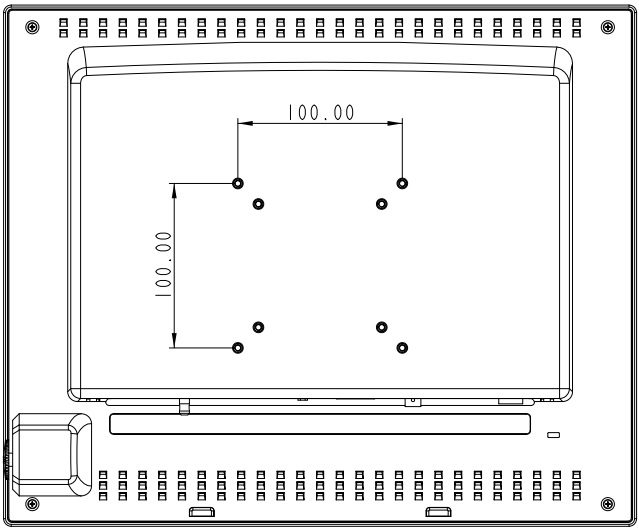
VLD179



Drawings

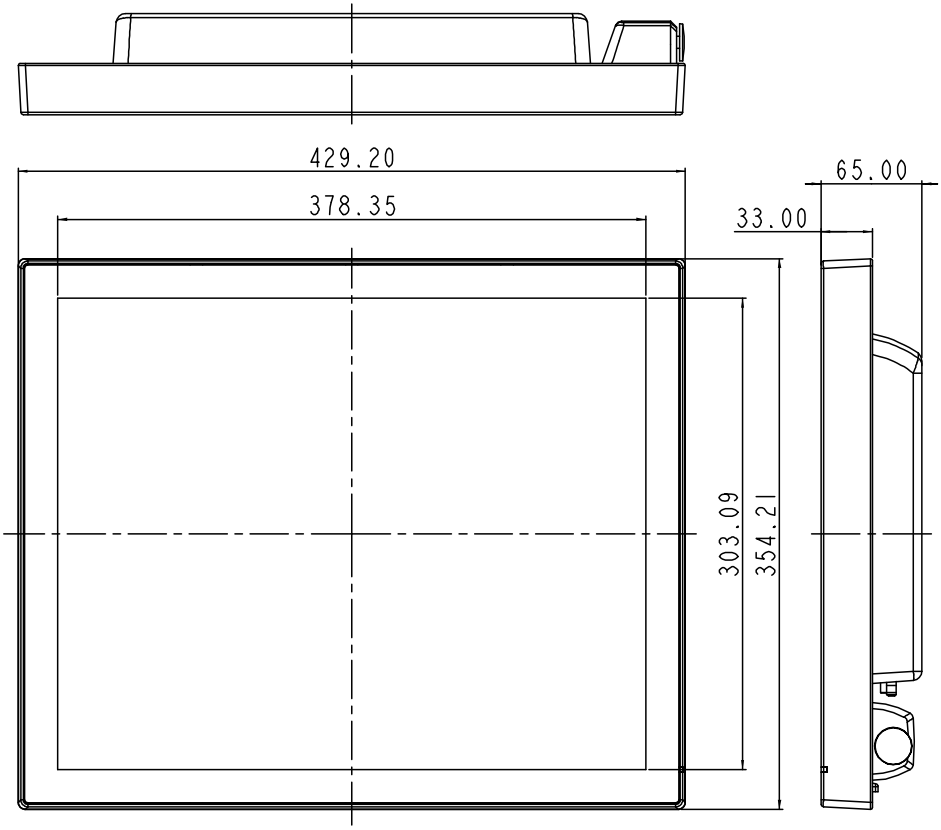
VLD179





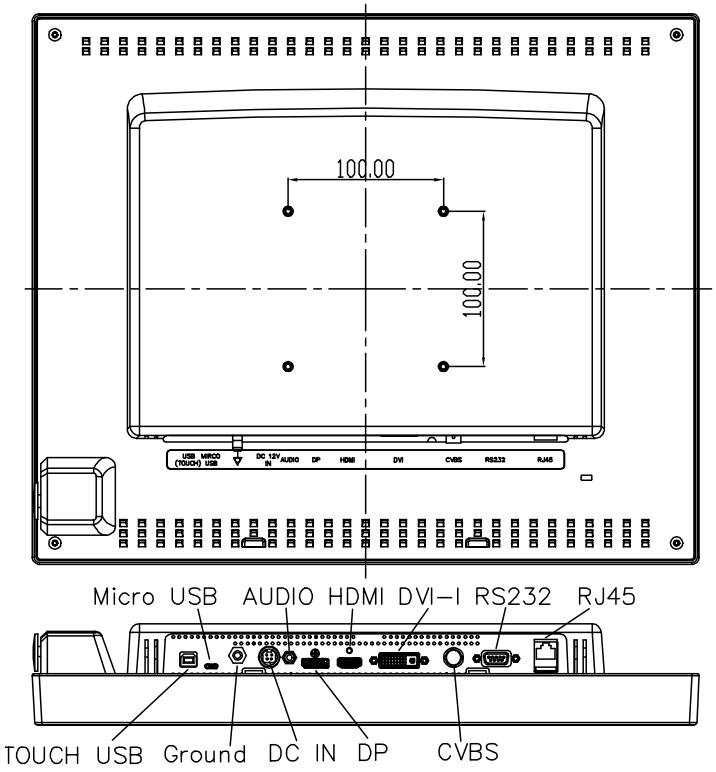
Drawings

VLD199



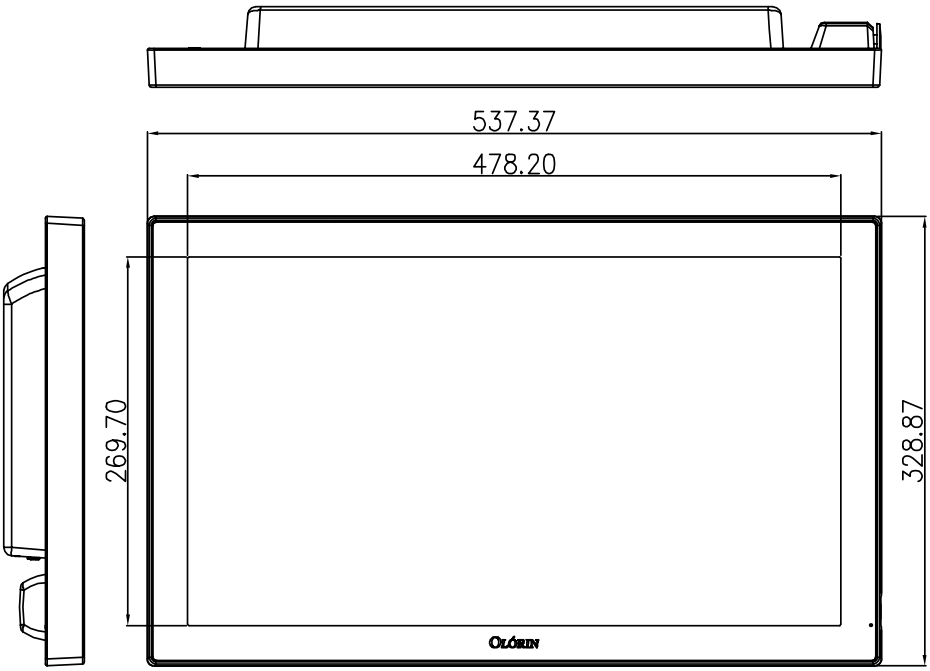
Drawings

VLD199



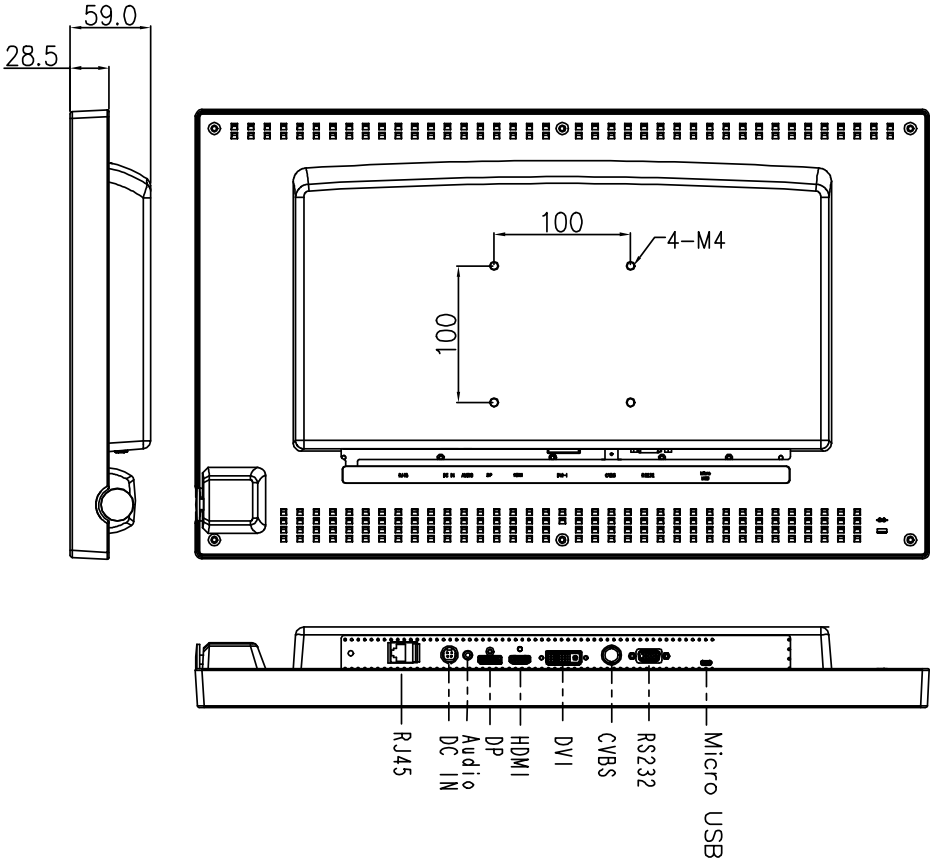
Drawings

VLD229



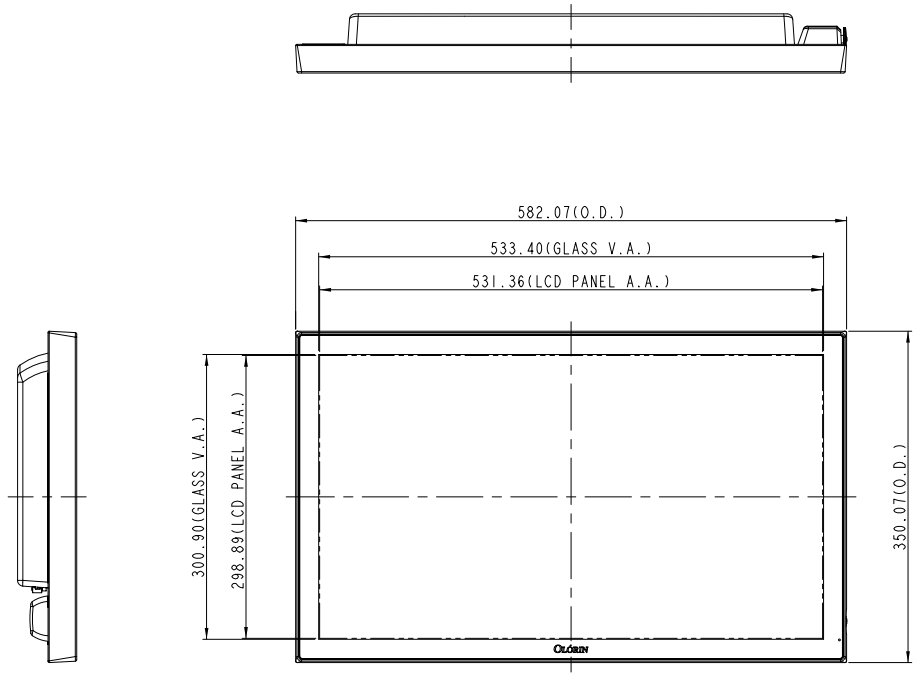
Drawings

VLD229



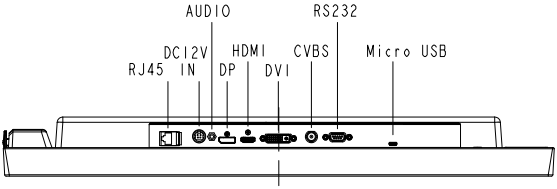
Drawings

VLD249

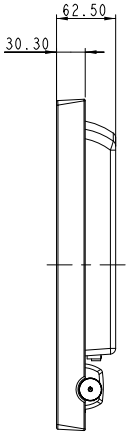


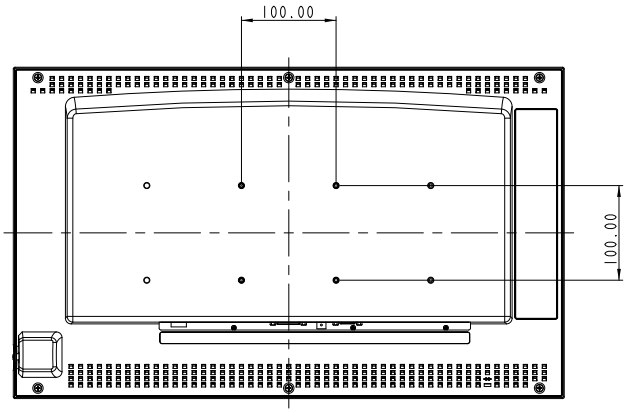
Drawings

VLD249



DISPLAY BOTTOM VIEW





Special Considerations for LCD Panels

Manufacturing of LCD panels is very delicate with large panel elements being manufactured in one unit and then cut to smaller sizes to be used in different products. In addition a panel consists of several layers of components (back-light lamps, diffusers, electronics and color filters). There are different technologies used with each having its advantages and disadvantages resulting in end user products with different specifications even when taken from the same manufacturing batch. Below are explanations to some observations that can be made and which are not considered defects since they are merely problems inherent in the technology of LCD monitors. Over time, the performance of the panel will also change.

Native resolution

All panels have a fixed number of pixels in both horizontal and vertical directions. For instance is a 19" panel normally built with 1280 pixels horizontal and 1024 vertical giving a native resolution of 1280x1024. At this resolution you will get the sharpest picture and it is therefore recommended that you use the native resolution. Thru scaling technologies it is possible to use other resolutions but the picture will be less sharp. Some text will appear to have shadows.

Native color temperature

Most commonly LCD panels are manufactured to have a color temperature of 6500K (Kelvin degrees) for full white picture. The color temperature can vary with shade of grey being showed. For instance it could be 7500K at 50% grey and more than 9000 at 90% grey. For an individual panel the color temperature at full white can also vary by +/- 15%. Inside the panel there is a color filter and over time this will age and become more yellow in its color tone. Therefore, over time, the color temperature will gradually go lower so that at full white it could come down to 5000K.

Typical values

In product specifications there are values for brightness, contrast, view angles etc. The values are given as "typical values" meaning that actual value for any given product can vary by up to 20% from this value. For instance, a product specified to give 300 candela as typical maximum value for brightness may for individual samples vary from 240 candela to 360 candela. The values specified are for a new product. Due to wear of the backlight lamps the values will change over time and gradually become lower.

Uniformity and Mura patterns

Depending on the placement of the backlight lamps, how many they are and the size of the panel the brightness over the entire panel will vary by up to 20%. Generally the highest brightness is in the centre of the panel and becoming gradually lower towards the outer edges. This does not follow a linear curve and there might also be "areas" on the screen where there is a noticeable difference in the uniformity. Such clouded areas are referred to as "Mura" and are more related to the panel itself than to the backlight. These Mura patterns are different in size and shape and are color and grayscale dependent since they are a result from deterioration of the liquid crystal alignment layer. Mura is most commonly caused by long term operation under high ambient temperature and is a phenomenon that cannot be repaired.

Non-performing pixels

Each pixel on the panel actually consists of 3 sub-pixels (one for each of Red, Green and Blue). A 19" panel with 1280x1024 therefore has almost 4 million sub-pixels. It can happen that a pixel can get stuck in ON status (bright pixel defect) or in OFF status (dead pixel defect) or in an in-between status (low bright pixel defect). Usually such defects only affect a sub-pixel and not an entire pixel. The defect can therefore only be seen at certain color settings. The ISO 13406-2 standard specifies how many pixel defects that are acceptable before an entire panel will be considered faulty.

Special Considerations for LCD Panels

Olorin products are warranted to follow this standard as a Class II product.

Image sticking

If the same image is shown for a long period of time there is a risk for “image sticking”. This is a result of that the thin film transistors will get stuck in a certain position and continue to show that image even when a new image is sent to the panel. The image will disappear if you put a full white picture on the monitor for several hours. The best solution is to have a screen saver that moves around on the screen so that no static image is constantly shown.

Slow operating in cold environments

The thin film transistors contain some liquid that will cause them to operate slowly in cold temperatures. When temperature inside the panel has increased to normal room temperature, the speed will be up to normal again.

Cable length and input signal

When using long cables from the video source (PC, camera etc) to the monitor the signal level will be lower and cause distortions in the picture shown. A low quality graphic board could also cause such problems. Always use high quality graphic boards and signal cables.

Longer life for your monitor

The components that have biggest influence on the useful life of the product are the backlight lamps. These are made of CCFL (Cold-cathode Fluorescent Lamp) or LED. Over time these will decay and give less and less light. They generally have a spedification of 40,000 hours before they are worn out. If they are constantly on one year of use corresponds to just over 8,000 hours and thus a life of 5 years.

There are ways to improve the useful life.

The most radical and efficient way is to always switch the monitor off when not used.

The second best is to use the Power Save feature within the PC´s DPMA system. This will not switch off the monitor entirely but the backlight lamps will be switched off which is the important thing. When you start to use the keyboard or mouse, the monitor will be switched on within a couple of seconds.

PLEASE, NOTE THAT A SCREENSAVER WILL NOT SWITCH OFF THE BACKLIGHT LAMPS AND THUS IS NOT A SOLUTION FOR LONGER LIFE.

The higher the luminance is set on the monitor the greater is the wear of the backlight lamps. All monitors have the facility to adjust brightness. Never set this at maximum since this will cause the lamps to decay faster. A setting at 50% will be sufficient for use in office environment.

Gradual change of color

As the backlight lamps ages they will show a warmer color temperature which can be perceived as more yellow for white color than it was initially when the monitor was new. There are color filters in the panel which also will age and add to the yellowish color tone.

You can usually from the monitors OSD set your own color and by setting the value for blue higher than red and green will change the color temperature back to more normal. However, the blue color filter has lower translucence so the consequence is that you will get a lower brightness.

Troubleshooting

Start your trouble shooting with the following actions

Possible power problem

- Make sure power is connected. If you switch the monitor off and then back on, the diode on the front should show green light. Some models have a main power switch next to the power inlet check that this is set to on. If you have a model **without power** adapter and still the no green light it's not a power problem.
  - If **not**, check your power connection to the power adapter and to the wall. There is a similar diode on the power adapter that should show green light.
    - If **not**, the adapter might be broken. If you have another adapter of the same type you can verify by using that adapter.
    - If **yes**, there is a problem with the panel which should be repaired.
  - If **yes**, then it is not a power problem.

Possible signal problem

- If picture is not stable or not shown at all or you get "No Sync" then check connection of the signal cable and graphic board settings.
- If picture is not shown at all and you get "No Sync" then check that you have selected the correct input source in the OSD menu, the monitor does not auto select input.
- If cable connections and graphic board settings are OK, then try the following
  - Switch monitor off. Wait 10 seconds and switch it back on
  - Re-boot the PC
  - Test monitor by connecting it to another PC
- If nothing of this helps, then there is something wrong with the monitor and it should be repaired. Contact your local reseller for assistance.

Reference

Kensington Anti-Theft Security Lock Slot

The LCD monitor is equipped with a security lock slot compatible to Kensington® security lock type. The security cable lock maybe available thru your dealer or it can be purchased at most computer peripheral stores near you.

Power management

This unit conforms to the DPMS standard (Display Power Management Signaling).

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